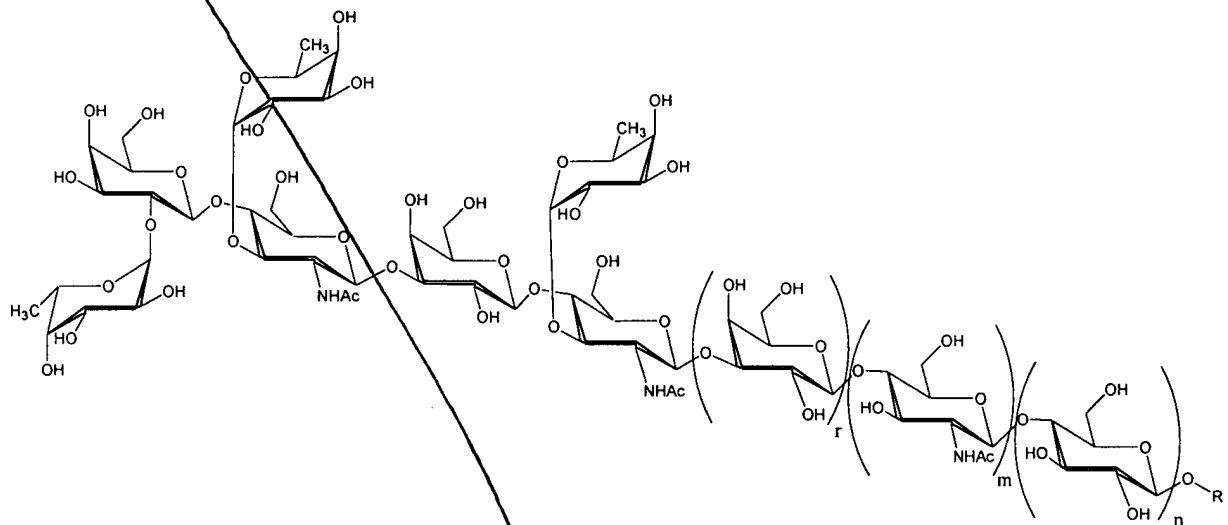


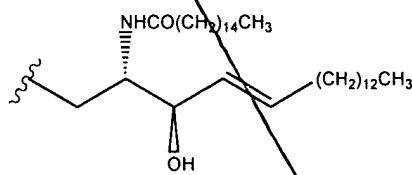
109. The compound of claim 108 wherein the compound is bound to a suitable carrier protein or lipid, said compound being bound either directly or by a cross-linker selected from the group consisting of a succinimide and an M<sub>2</sub> linker.

110. The compound of claim 108 wherein the compound has the structure:

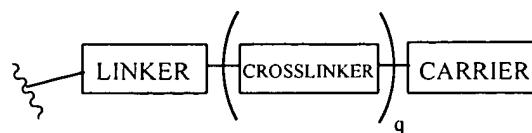


wherein r, m, and n are independently 0, 1, 2 or 3;

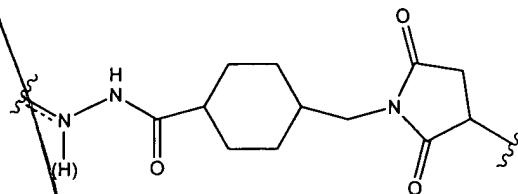
wherein R is H, substituted or unsubstituted alkyl, aryl or allyl, an amino acyl moiety, a moiety having the structure:



or a moiety having the structure:



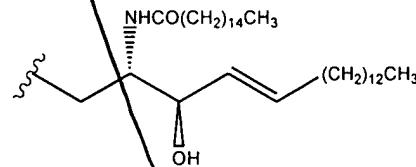
wherein the linker is  $-(CH_2)_s-CH_2-$  or  $-(CH_2)_s-CH=$  where s is an integer between 0 and 8; wherein the crosslinker is selected from the group consisting of a succinimide and an M<sub>2</sub> linker having the structure:



wherein q is 0 or 1;

and wherein the carrier is a protein, peptide or lipid, and is optionally chemically modified prior to conjugation with the linker when q is 0, or with the crosslinker when q is 1;

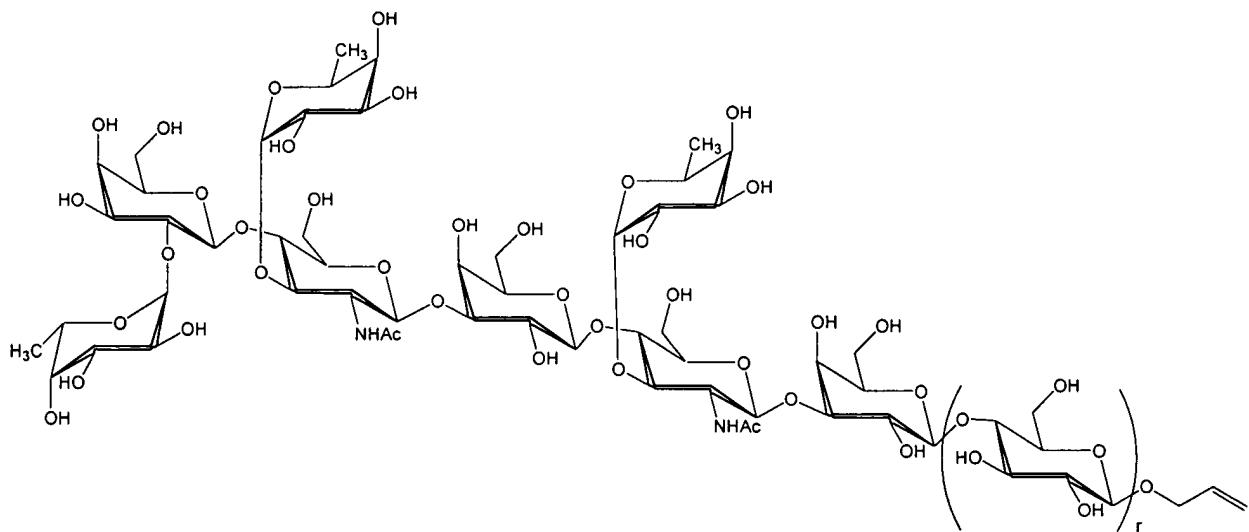
with the proviso that when R is the moiety having the structure:



the set of indices (r, m, n) is not (1, 0, N).

111. The compound of claim 109 or 110 wherein the protein is bovine serum albumin, polylysine, or keyhole limpet hemocyanin.

112. A compound having the structure:



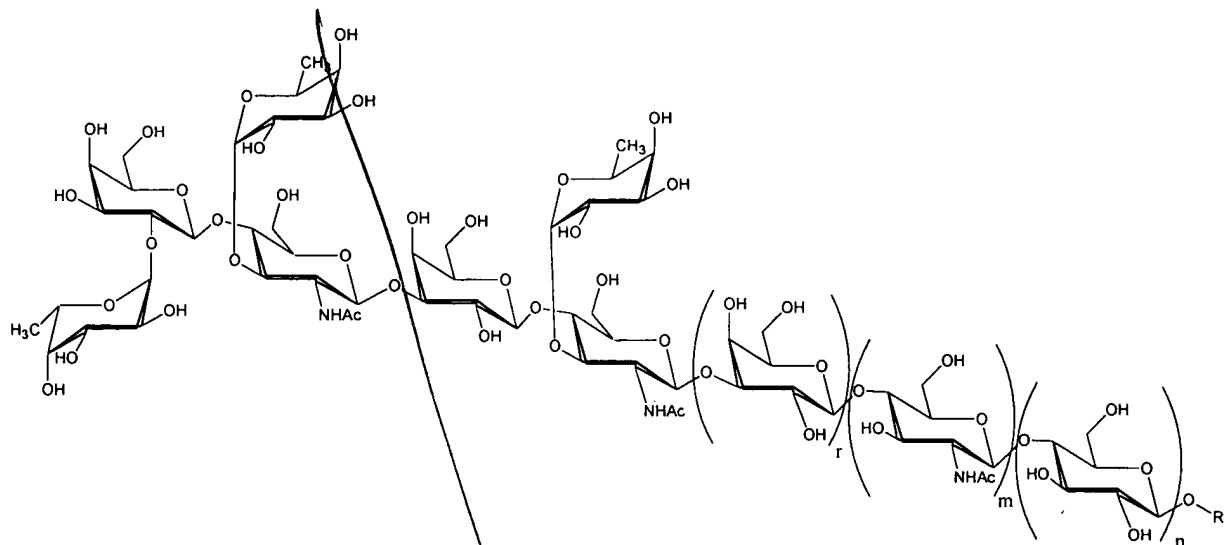
wherein r is 0, 1, 2, 3, or 4.

113. The compound of claim 112 wherein r is 1.

*505 C4* 114. A composition comprising a compound of claim 108; and optionally an immunological adjuvant and/or a pharmaceutically acceptable carrier.

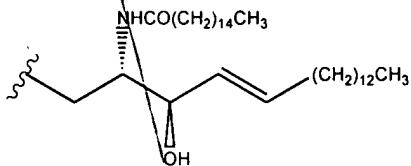
*505 C4* 115. The composition of claim 114 wherein the compound is bound to a suitable carrier protein or lipid, said compound being bound either directly or by a cross-linker selected from the group consisting of a succinimide and an M<sub>2</sub> linker.

*505 C4* 116. The composition of claim 114 wherein the compound has the structure:

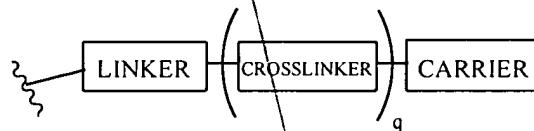


wherein r, m, and n are independently 0, 1, 2 or 3;

wherein R is H, substituted or unsubstituted alkyl, aryl or allyl, an amino acyl moiety, a moiety having the structure:



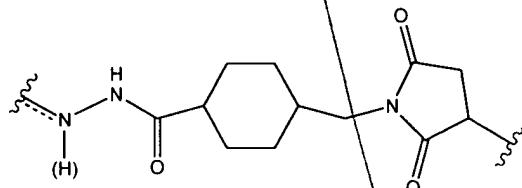
or a moiety having the structure:



wherein the linker is  $-(CH_2)_s-CH_2-$  or  $-(CH_2)_s-CH=$  where s is an integer between 0 and 8;

wherein the crosslinker is selected from the group consisting of a succinimide and an M<sub>2</sub>

linker having the structure:



wherein q is 0 or 1;

and wherein the carrier is a protein, peptide or lipid, and is optionally chemically modified prior to conjugation with the linker when q is 0, or with the crosslinker when q is 1;